Nomenclature

Ronald C. Petersen, PhD, MD
Mayo Clinic
Rochester, MN

Angela Taylor
Lewy Body Dementia Association

Advisory Council for the National Plan
Washington, DC
January 25, 2021

1

Nomenclature Initiative

Progress on initiative

Asymptomatic people with biomarkers

2

MAYO CLINIC

Nomenclature Initiative

Progress on initiative

Asymptomatic people with biomarkers

3

Nomenclature
Words Matter

- Nomenclature issues very important
- Cut across all spheres of investigation
  - Science/Research
  - Clinical Care
  - Public Stakeholders
    - Government agencies
    - Advocacy groups
    - Research participants
    - Under-represented groups

4

4

Confusion in the field on terminology

- Alzheimer's Disease
- Frontotemporal Degeneration
- Dementia with Lewy Bodies
- Vascular cognitive impairment-dementia
- Mixed dementias

5

MAYO CLINIC

Working Groups

Research: Sandy Weintraub, PhD, NW University

Clinical: Marwan Sabbagh, MD, Cleveland Clinic, Las Vegas

Public Stakeholders: Jason Karlawish, MD, U of Pennsylvania

Facilitator: RAND Corporation

6

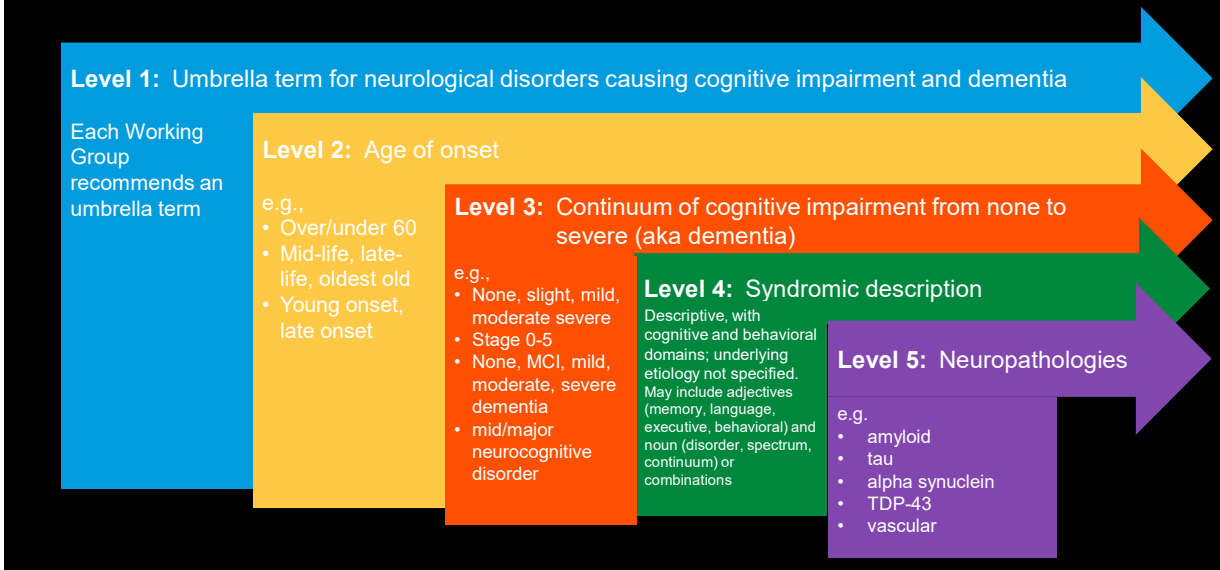
Nomenclature
Implications for Research

- **Science/Research:** Must be precise
- **Clinicians:** Must translate science to patients and vice versa
- **Public stakeholders:** Stigma, willingness to participate in research
  - Sensitivity in under-represented groups

7

7

NOMENCLATURE FRAMEWORK



8

MAYO CLINIC

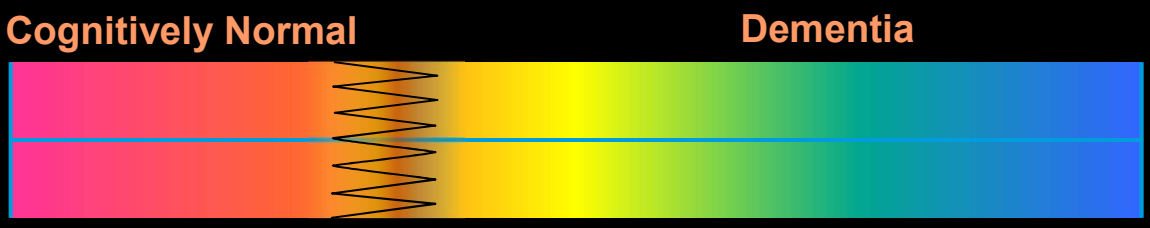
Nomenclature Initiative

Progress on initiative

Asymptomatic people with biomarkers

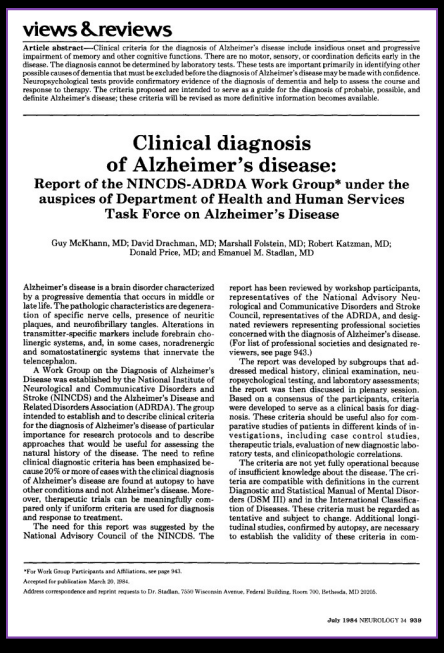
9

Old Conception of Alzheimer's Disease



10

NINCDS-ADRDA Criteria 1984



views & reviews

Article abstract—Clinical criteria for the diagnosis of Alzheimer's disease include insidious onset and progressive impairment of memory and other cognitive functions. There are no motor, sensory, or coordination deficits early in the disease. The diagnosis cannot be determined by laboratory tests. These tests are important primarily in identifying other possible causes of dementia that must be excluded before the diagnosis of Alzheimer's disease may be made with confidence. Neuropsychological tests provide confirmatory evidence of the diagnosis of dementia and help to assess the course and response to therapy. The criteria proposed are intended to serve as a guide for the diagnosis of probable, possible, and definite Alzheimer's disease; these criteria will be revised as more definitive information becomes available.

Clinical diagnosis of Alzheimer's disease:

Report of the NINCDS-ADRDA Work Group* under the auspices of Department of Health and Human Services Task Force on Alzheimer's Disease

Guy McKhann, MD; David Drachman, MD; Marshall Folstein, MD; Robert Katzman, MD; Donald Price, MD; and Emanuel M. Stadlan, MD

Alzheimer's disease is a brain disorder characterized by a progressive dementia that occurs in middle or late life. The pathologic characteristics are degeneration of specific nerve cells, presence of neuritic plaques, and neurofibrillary tangles. Alterations in transmitter-specific markers include forebrain cholinergic systems, and, in some cases, noradrenergic and somatostatinergic systems that innervate the telencephalon.

A Work Group on the Diagnosis of Alzheimer's Disease was established by the National Institute of Neurological and Communicative Disorders and Stroke (NINCDS) and the Alzheimer's Disease and Related Disorders Association (ADRDA). The group intended to establish and to describe clinical criteria for the diagnosis of Alzheimer's disease of particular importance for research protocols and to describe approaches that would be useful for assessing the natural history of the disease. The need to refine clinical diagnostic criteria has been emphasized because 20% or more of cases with the clinical diagnosis of Alzheimer's disease are found at autopsy to have other conditions and not Alzheimer's disease. Moreover, therapeutic trials can be meaningfully compared only if uniform criteria are used for diagnosis and response to treatment.

The need for this report was suggested by the National Advisory Council of the NINCDS. The report has been reviewed by workshop participants, representatives of the National Advisory Neurological and Communicative Disorders and Stroke Council, representatives of the ADRDA, and designated reviewers representing professional societies concerned with the diagnosis of Alzheimer's disease. (For list of professional societies and designated reviewers, see page 943.)

The report was developed by subgroups that addressed medical history, clinical examination, neuropsychological testing, and laboratory assessments; the report was then discussed in plenary session. Based on a consensus of the participants, criteria were developed to serve as a clinical basis for diagnosis. These criteria should be useful also for comparative studies of patients in different kinds of investigations, including case control studies, therapeutic trials, evaluation of new diagnostic laboratory tests, and clinicopathologic correlations.

The criteria are not yet fully operational because of insufficient knowledge about the disease. The criteria are compatible with definitions in the current Diagnostic and Statistical Manual of Mental Disorders (DSM III) and in the International Classification of Diseases. These criteria must be regarded as tentative and subject to change. Additional longitudinal studies, confirmed by autopsy, are necessary to establish the validity of these criteria in com-

*For Work Group Participants and Affiliations, see page 943.

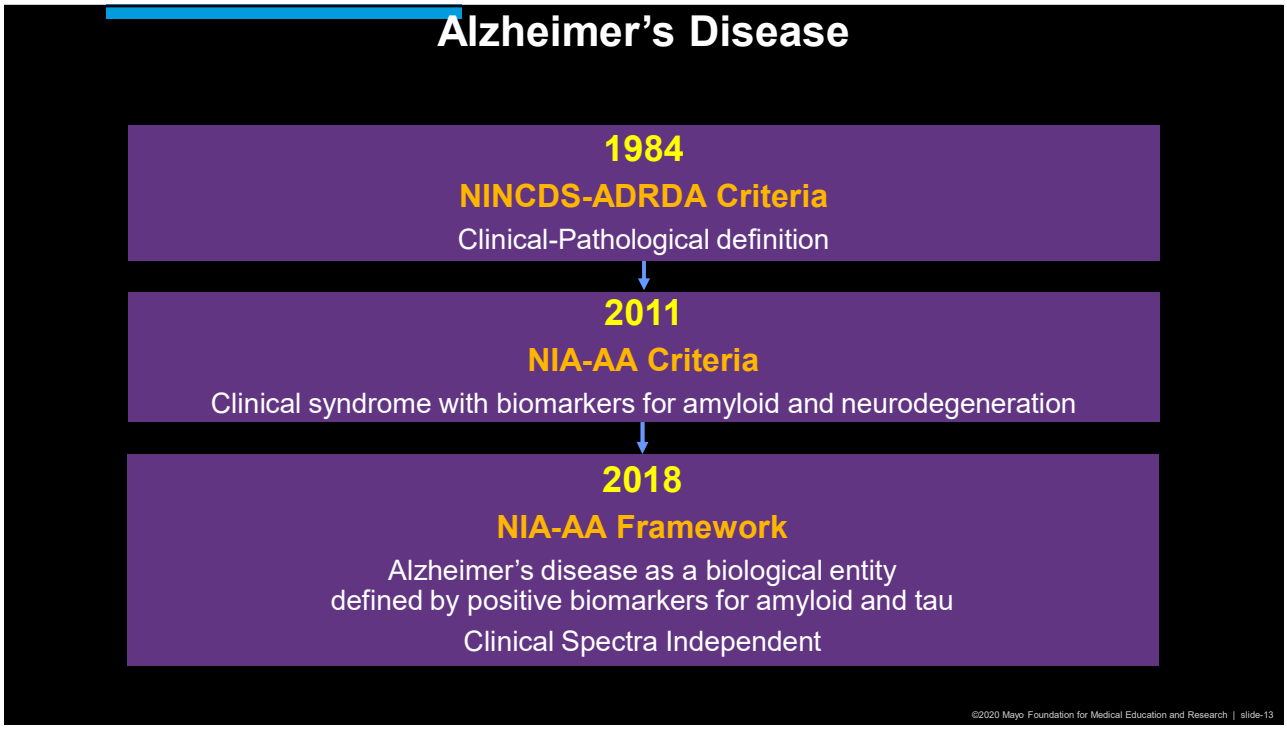
Accepted for publication March 20, 1984.

Address correspondence and reprint requests to Dr. Stadlan, 7550 Wisconsin Avenue, Federal Building, Room 700, Bethesda, MD 20205.

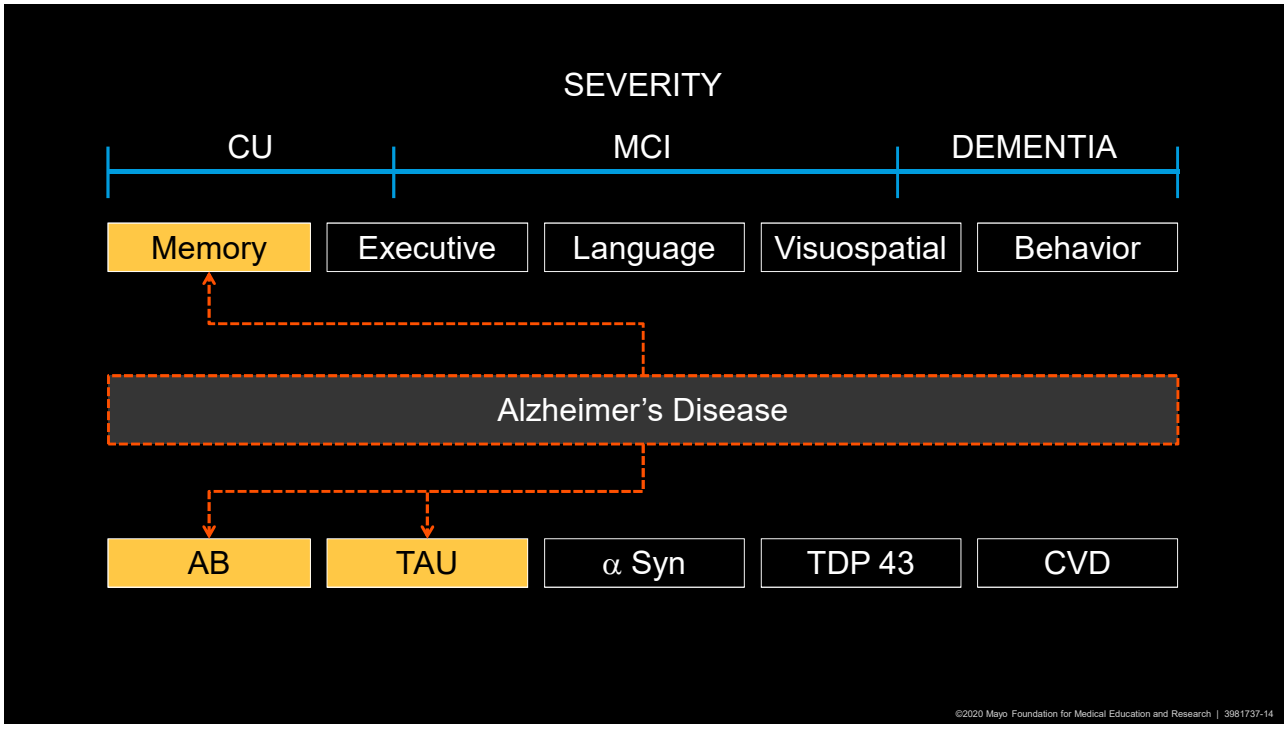
11

Alzheimer's Disease as a Clinical – Pathological Entity

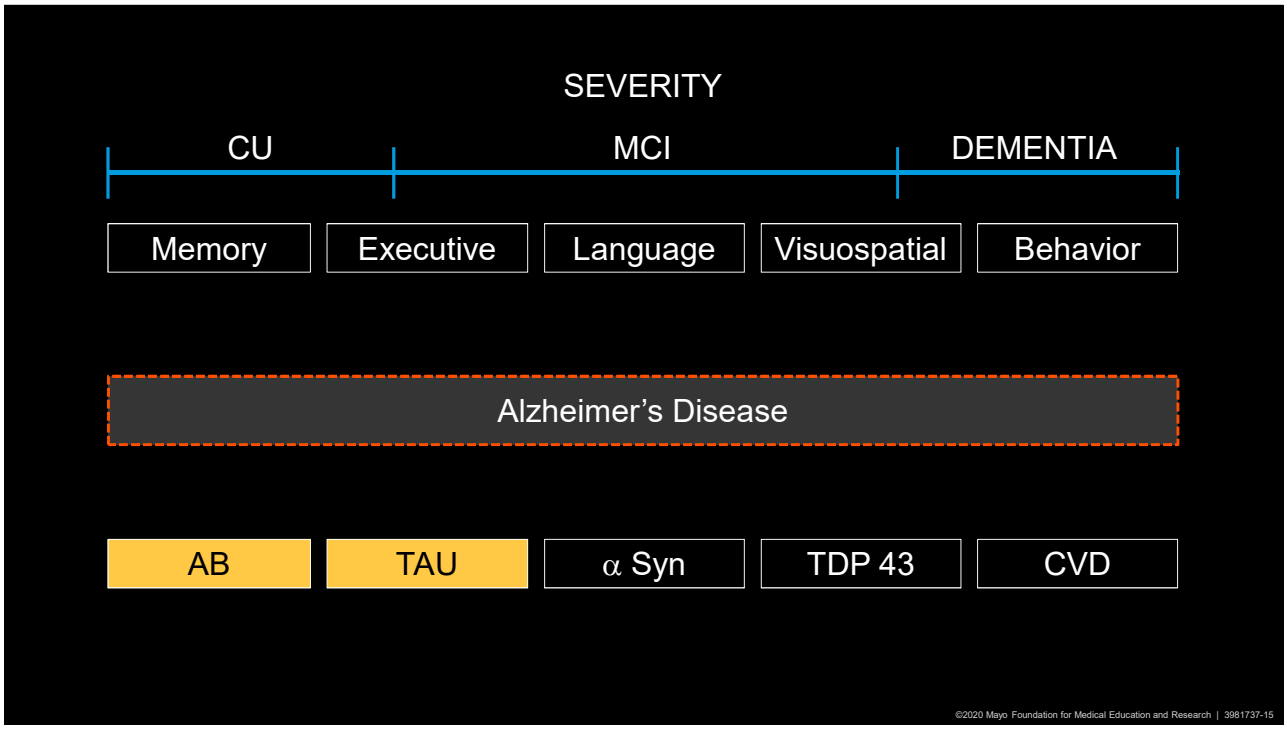
12


Alzheimer's Disease
1984
NINCDS-ADRDA Criteria
Clinical-Pathological definition
2011
NIA-AA Criteria
Clinical syndrome with biomarkers for amyloid and neurodegeneration
2018
NIA-AA Framework
Alzheimer's disease as a biological entity
defined by positive biomarkers for amyloid and tau
Clinical Spectra Independent
©2020 Mayo Foundation for Medical Education and Research | slide-13

13


SEVERITY
CU
MCI
DEMENTIA
Memory
Executive
Language
Visuospatial
Behavior
Alzheimer's Disease
AB
TAU
α Syn
TDP 43
CVD
©2020 Mayo Foundation for Medical Education and Research | 3981737-14

14



15

MAYO CLINIC

Plans for Future

Work groups continue to meet
- **Research/Science**
- **Clinical practice**
- **Public stakeholders**

Present research implications to NIH at workshop on February 16, 2021

16

Dementia Nomenclature Initiative
Winter 2021 Workshop

Goal: Update NIH and others on dementia nomenclature initiative progress; elicit feedback on working plan.

1. Challenges of Current Nomenclature for Research, Clinical Care, and Public Communication

2. Overview of the Dementia Nomenclature Initiative

3. Report from the Research Working Group

4. Working Group Updates: Clinical Care and Public Stakeholder

5. Panel Discussion: Through the Lens of Health Disparities

17

Thank you

Questions?

18